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www.**lapavoni**.com

P180

Istruzioni per l'uso operating instructions **mode d'emploi**
gebrauchsanweisung **instrucciones de uso**

la Pavoni®
Dal 1905 macchine per caffè

TECHNICAL FEATURES

Dimensions: Height 75 cm
Width 41cm
Depth 47cm

Weight: 43 Kg

Voltage supply: 230 Vac. 50 Hz or 120 Vac. 60Hz on request

Absorbed power: 1,7 KW

Selections: 9 selections.with 2 sugar sekections

Payment systems options:

12VAC or 24VAC coin acceptors
Executive / MDB (optional kit)

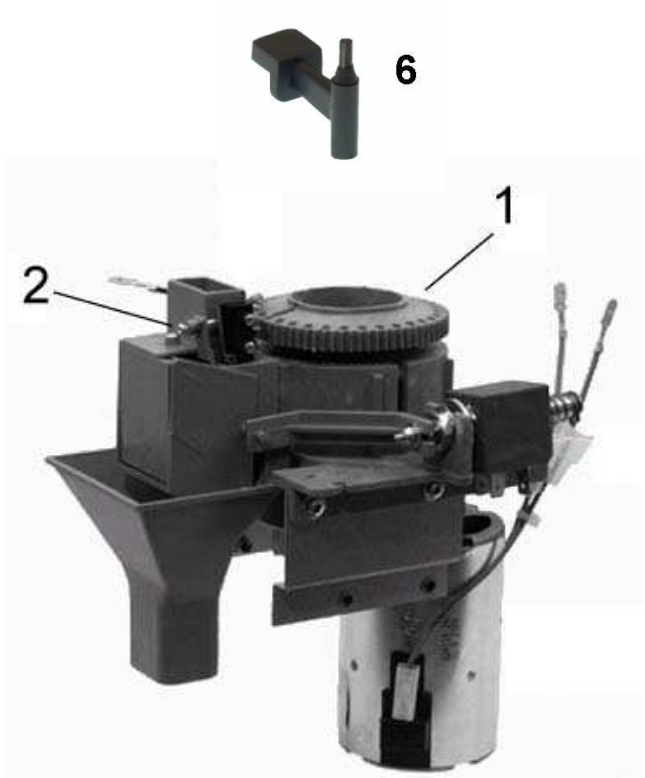
GRINDER

You can adjust the quantity of ground coffee through a screw (2); the more you unscrew it, the more the quantity increases.

If you want to adjust the grinding degree, first you have to push the catch (6), then you have to screw clockwise the grind-stone holder (1) for a finer grinding, while counterclockwise for a thicker one.

Before starting the grinder, make sure the catch is again in one of the grind-stone holder holes.

The grinding adjustment result is not immediate but you need 2/3 espresso cycles before the real grinding degree is done.
After that you can adjust again if you need it.



INSTALLATION

Before installing the machine, read carefully the manual.
The installation site must be level and dry.

ELECTRIC CONNECTION

Before connecting the machine to an electric plug, please follow these precautions:

- The main supply must be suitable for the machine power requirements (1600W).
- Check that the power supply voltage is the same as the one shown in the rating label.
- Check that the main socket is correctly earthed.
- If the power supply cable is to be replaced, use only original cables.

The manufacturer will not accept responsibility for any damage claiming if these precautions are not complied with.

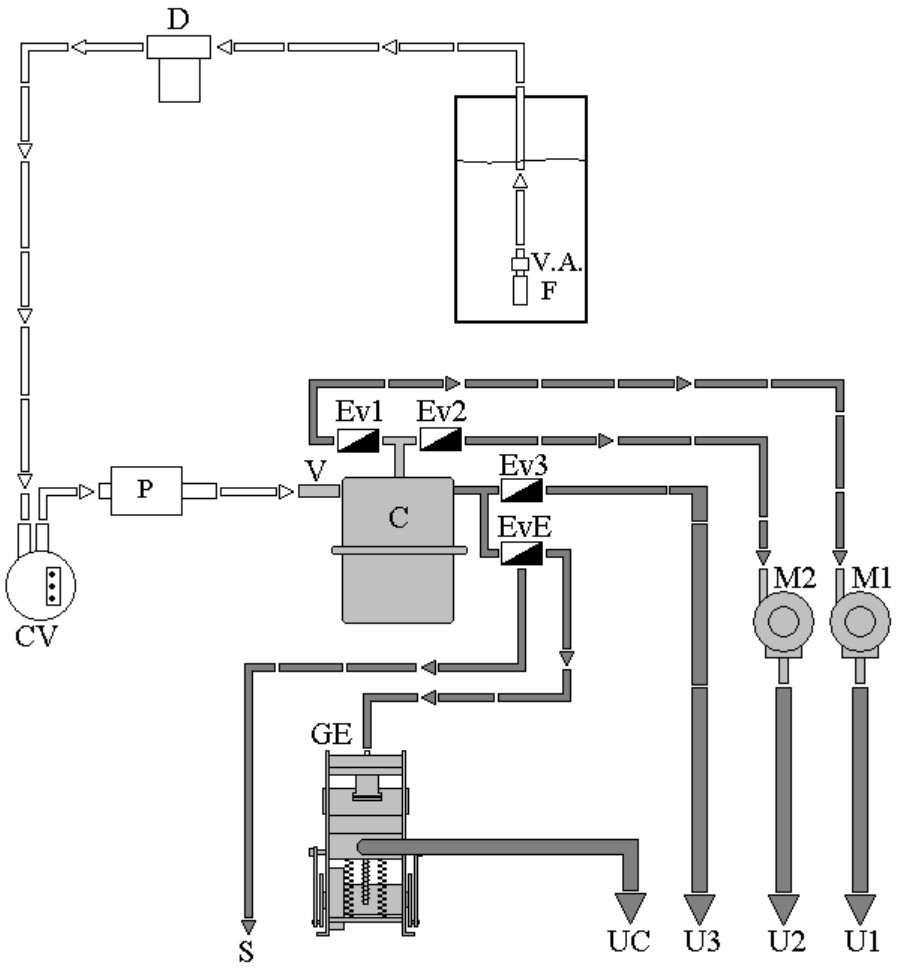
The machine is provided with a general lighted switch, located on the back panel, and with a security push button on the chassis that will cut off the power to the electronic board when you open the door.
If you want to restore the power when the door is open, take out the push button.

All the machine electric devices work with a 24 VDC voltage, except for boiler heating element and the transformer that work with 230 or 115 VAC.

LEGEND

F	WATER FILTER
VA	ONE-WAY VALVE
D	LIMESTONE FILTER (OPTIONAL)
CV	FLOWMETER
P	PUMP
V	VALVOLA NON RITORNO
C	BOILER
EV1	TEA ELECTROVALVE
EV2	MILK & CHOCOLATE ELECTROVALVE
EV3	NOT AVAILABLE
EVE	ESPRESSO ELECTROVALVE
GE	ESPRESSO BREWER
M1	TEA MIXING GROUP
M2	MILK & CHOCOLATE MIXING GROUP
S	WASTE
U1	TEA OUTLET
U2	MILK & CHOCOLATE OUTLET
U3	NOT AVAILABLE
UC	ESPRESSO OUTLET

HYDRAULIC DIAGRAM



HYDRAULIC CONNECTION

IMPORTANT: THE MANUFACTURER RECOMMENDS THE INSTALLATION OF A DESCALING FILTER, THEREFORE HE WILL NOT ACCEPT RESPONSIBILITY FOR ANY DAMAGE CAUSED BY SCALE.

The machine can be installed as follows:

Table top installation:
Connect the mains pipe to the in-let electrovalve.
Check the pressure by the manometer, if it is over 1 bar, adjust it with the inside reducer.

Cabinet installation:
Place the machine on the cabinet, insert the pipe with the filter, the one-way valve and the float into the 15lt tank and the grey pipe into the 5 lt waste tank.

In order to discharge the coffee pucks into a bag, fix it up to the cabinet conveyer with the special hook and insert the chute under the espresso brewer.
Finally screw the machine on the cabinet.

PAYMENT SYSTEM CONNECTION

- 12V PARALLEL connect to keyboard connector COIN12V (see picture at page 7).
- 24V PARALLEL connect to keyboard connector COIN24V (see picture at page 7).
- EXECUTIVE / MDB connect to the relative cables (optional)

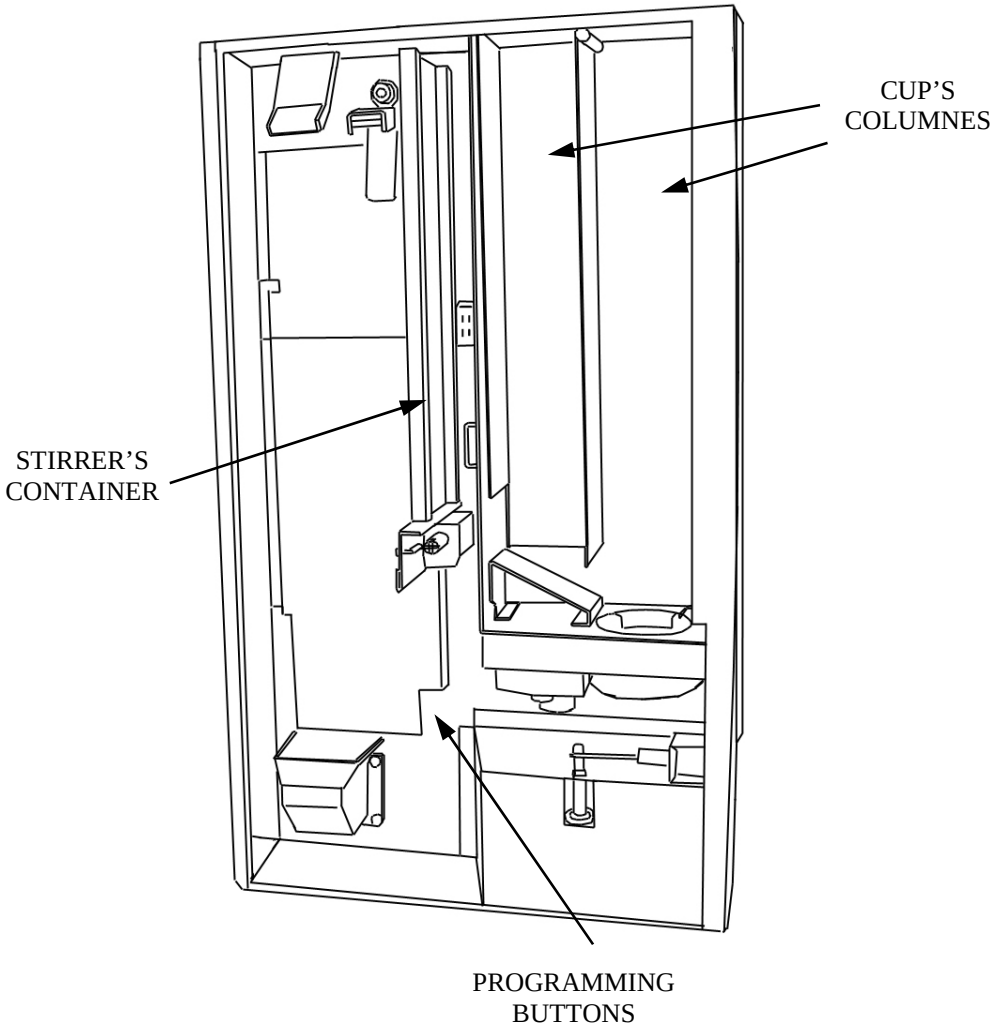
After the payment system connection, you must set the kind of payment system in programming (see at page 15).

LOADING

PRODUCTS: fill the canisters with the products.

CUPS: open the cover and insert the cups in the two columns (see picture).

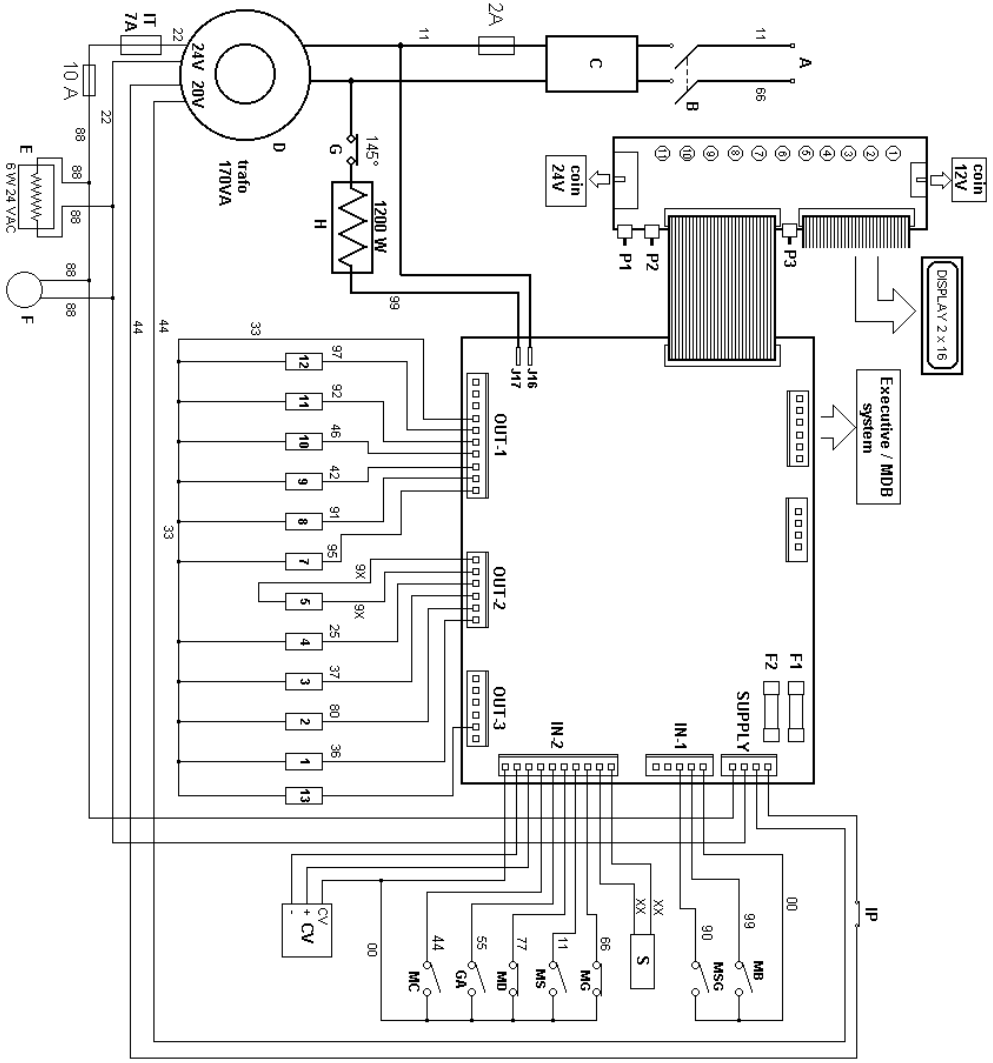
STIRRERS: pull the stirrer's container, insert them and push the container in its position (see picture).



ELECTRIC DIAGRAM LEGEND

A	Main power supply 230 Vac
B	Main switch
C	Anti-interference filter
D	Transformer 230 / 24 Vac
IT	Circuit breaker 7A
E	Brewer unit heating element 24 Vac
F	Fan
G	Safety thermostat 145°C
H	Boiler heating element 1500W
IP	Door switch
S	Boiler's temperature sensor
MG	Supply position Microswitch
MS	Starting position Microswitch
MD	Doser microswitch
GA	Float
MC	not used
CV	Flowmeter
1	Grinder motor
2	Coffee releasing solenoid
3	Brewer motor
4	Coffee electrovalve
5	Pump
7	Milk & chocolate electrovalve & whipper motor
8	Milk motor
9	Sugar motor
10	Chocolate motor
11	Tea electrovalve & whipper motor
12	Tea motor
13	Column movement solenoid
14	Cup releasing motor + stirrer releasing solenoid + cup-arm movement solenoid
F1	1.6A Fuse
F2	10A Fuse

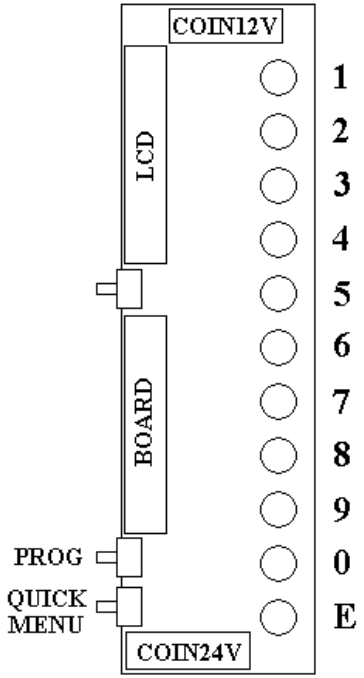
ELECTRIC DIAGRAM

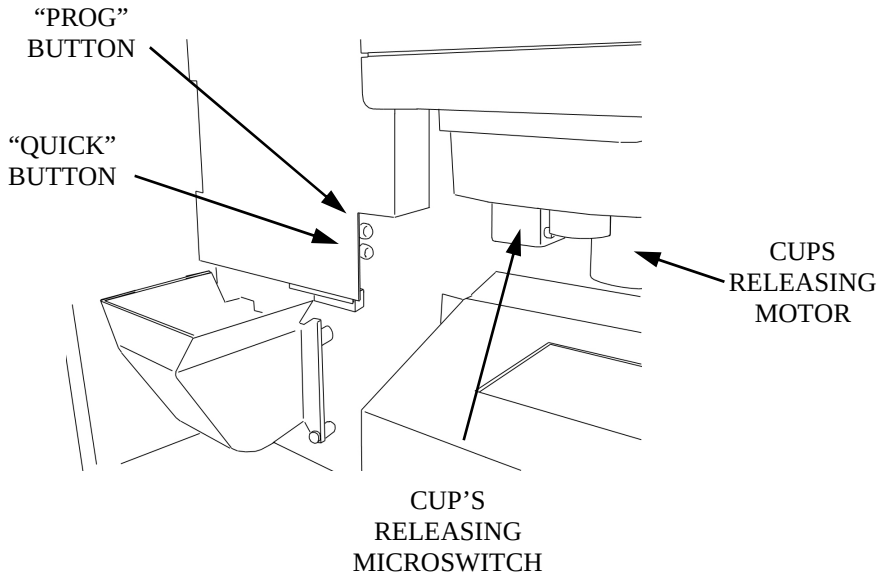


WIRES' COLOR LEGEND

00	Black	66	Blue
11	Brown	77	Violet
22	Red	88	Grey
33	Orange	99	White
44	Yellow	XX	Pink
55	Green	YY	Light blue

KEYBOARD





SWITCHING ON

When you switch on the machine, first the software version message will appear on the display for a short time, and then the boiler heating will be shown by the message "HEATING". The message ". ….INSERT THE CREDIT AND SELECT YOUR DRINK…" will appear as soon as the right temperature is reached.

Note: we suggest doing a manual washing after you have switched on the machine, in order to fill more easily the hydraulic circuit and the boiler.
Please refer to the" quick functions" on page 24.

PROGRAMMING

There are 2 programming levels: a frequent menu and a main menu.

The frequent menu is useful to the operator in order to regulate the dosage of the drinks, drinks dosing, to set the prices, to detect strokes read the counters and to visualize the last machine operations.

The main menu is useful to the technical department in order to set the machine parameters.

The programming buttons are the following: as follows:

1	Removes a drink or a movement from the menu setting drinks
2	Adds a drink or a movement into the menu setting drinks
3	Modifies a drink or a movement in the menu setting drinks
4	Executes a test of the drink in the menu setting drinks
5	Answer NO
6	Answer YES
7	
8	(+) has the function of increasing or going on in the programming
9	(-) has the function of decreasing or going back in the programming
0	(ESC) to exit
E	(ENTER) to confirm

TROUBLESHOOTING GUIDE

The machine has a self-diagnosis program that allows you to visualize messages of out of order.

ERROR GROUP 1	the coffee-group has not reached the "supply position" given by the micro switch on its right side. Check fuses, group micro switch on the right side, group motor and electronic board.
ERROR GROUP 0	the coffee-group has not reached the "standard position" given by the micro switch on its left side. Check fuses, group micro switch on the left side, group motor and electronic board.
ERR. COFFEE FLOW	During espresso supplying, the board has not received signals from the flowmeter. Check fuses, coffee quality, coffee pump, coffee electro valve, flowmeter and electronic board.
ERR. SOLUB.FLOW	During soluble supplying, the board has not received signals from the flowmeter. Check fuses, soluble pump, soluble electro valve, flowmeter and electronic board.
ERROR GRINDER 1	During the coffee grinding, the board has not received the signal given by the doser-switch in 25 seconds. Check coffee quality, fuses, doser micro-switch, grinder motor, grinder block and electronic board.
LACK OF WATER	The board doesn't receive the signal from the float. Check lack of water, float, water container micro switch and electronic board.
ERROR BOILER 1	The board has not received the programmed value temperature from the boiler sensor in 15 minutes. Check safety thermostat, boiler heating element and electronic board.
EMPTY GROUNDS!	The coffee grounds decounter has reached the programmed value. Empty the grounds and execute the quick function no.5.
ERROR EXECUTIVE	The board does not receive signals by the programmed Executive or MDB payment systems. Check payment system, cables and electronic board.
LACK OF CUPS	The board doesn't receive the signal from the cup-microswitch. Check lack of cups and cups-microswitch.
ERR. CUP_RELEAS	During the cup-releasing, the board has not received the change of state of the cup-releaser micro switch. Fuses, cup-releaser motor, cup-releaser micro switch, electronic board.

First you have to solve the trouble, then switch off the machine in order to delete the error.

QUICK FUNCTIONS

In this menu, it is possible to perform some of the most useful functions by the operator

To enter this menu, press the button “QUICK MENU” of the keyboard .

You will see “QUICK MENU ” on display.

Pushing the appropriate number, you will execute the following functions:

1. ***Mixers washing****:* a washing cycle for each mixing group is executed.
2. ***Boiler temperature visualization***: you will see the actual boiler temperature for 2 seconds.
3. ***Total counter visualization:*** the display will show the total counter for 3 seconds. You can’t reset this counter**..**
4. ***Free mode working****:* setting the “free mode” working. After 1 minute of no working the machine will come back to regular working.
5. ***Grounds counter reset****:* the coffee grounds counter is reset to the programmed value in “level 2 menu”. The “empty grounds !” message will disappear and the machine will keep on working.
6. ***Filter counter reset****:* the filter counter is reset to the programmed value in “level 2” menu. After that, the symbol “*” will disappear.
7. ***Espresso group motor test****:* you can test the espresso group movement. Pushing the button 7, you will supply the motor, while keeping pressed it, the motor will move to the next position (“supply position” or “normal position”).
8. ***Coffee decounter reset****:* the coffee decounter is reset to the programmed value (see also on page 23).
9. ***Chocolate decounter reset*****:** the chocolate decounter is reset to the programmed value (see also on page 23)**.**

FREQUENT MENU

You can enter this menu pressing the PROG button for only a second.
The following menus will appear on the display:

- **SET DRINKS**
- **SET PRICES**
- **COUNTERS & AMOUNTS**
- **EVENTS**

SET DRINKS

After you have entered the menu, you will see the drinks codes sequence.

03-04-05-0 Sel.3

The flashing cursor points out the selected drink code. If you want to move it, use either the button “+” for going on or the button “-” for going back. While you move the cursor, the name of the selection and the drink code will be visualized.

Press E to modify the drink code parameters.
A sequence of numbers that correspond to the selection doses, price line (P) and name (MS) will be visualized.

32-07-P1-MS SUGAR

Since the cursor points out the selected dosing code, press either the button “+” or “-” to move it; in the underlying line the description of the selected dose will appear.
Select the dose and press E in order to change its value.

VALUE 45

Use numerical buttons from 0 to 9 to insert the desired value and press E to confirm it.
Press “Esc” to go out of the menu.

SAVE CHANGES ? YES=6 NO=5

Press "6" to confirm the changes or "5" to cancel them.

Movements nr 20 and 21 (Decounter coffee and chocolate)

If inserted, the operations no.20 (coffee decounter) and no.21 (chocolate decounter) decrease the relative decounter in a unit.
If you want to set the decounter value, change it in one selection containing it and it will be modified automatically in all the other selections.

If the parameter “type” is set=0, every time it is reset (see on page 18) the decounter restarts from the set value, while if the parameter “type” is set=1, at every reset, the decounter value will be the result of the set value and the value before the reset.

Example with value= 100 and type=0
If the decounter is reset when its value is 20, the new decounter value will be 100.

Example with value=100 and type=1
If the decounter is reset when its value is 20, the new decounter value will be 120 (100+20).

In both cases, when the decounter reaches 0, the display will show “Machine ready coffee finished” or “Machine ready choco finished” or “Machine ready No coffee&choco” and the machine will disable the selections which contains the relative decounter (operations 20 and 21).

You can eliminate, modify or insert operations or change their values where it's possible.

- Press "+" or "-" to move the selection cursor
- Press "+" or "-" to insert a new operation in the selected position
- Press "1" to eliminate the selected operation
- Press "3" to modify the selected operation
- Press "enter" to modify the values (example: dosing)

If you need to change the drink name, press the following buttons:

"7" to go back to the previous letter
"6" to go on to the following letter
"+" or "-" to modify the character

The operations are as follows:

01	CUP	the cup-dispenser releases a cup (only for F180).
02	GRINDER 1	the grinder makes a coffee dose.
03	SOLUB. 1 VOLUM.	The machine makes the soluble 1 (milk) cycle with volumetric control (in cc).
04	SOLUB. 2 VOLUM.	The machine makes the soluble 2 (chocolate) cycle with volumetric control (in cc).
05	SOLUB. 3 VOLUM.	The machine makes the soluble 3 (tea) cycle with volumetric control (in cc).
06	SUGAR	The machine gives a sugar dose instead powder soluble 3.
07	ESPRESSO 1	The coffee dose is released into the infusion chamber and the espresso supplying is made.
08	SOLUB. 4 VOLUM.	The machine makes the soluble 4 (coffee) cycle with volumetric control (in cc).
09	SOLUB. 5 VOLUM.	The machine makes the soluble 5 cycle with volumetric control (in cc).
10	PAUSE TYPE 1	A pause is made
11	PAUSE TYPE 2	A pause is made
12	PAUSE TYPE 3	A pause is made
13	PAUSE TYPE 4	A pause is made
14	LIOF. SOLUBLE 4	The machine gives the soluble 4 (coffee) powder (used for light kinds of powder).
15	SOL.4 LIOF.SUG.V.	The machine gives a sugar dose into the soluble 4 mixing group and a quantity of water with volumetric control.
16	SOL.4 LIOF.SUG.T.	The machine gives a sugar dose into the soluble 4 mixing group and a quantity of water with time control.
17	LIOF. SOLUBLE 5	The machine gives the soluble 5 powder (used for light kinds of powder).
18	SOL.5 LIOF.SUG.V	The machine gives a sugar dose into the soluble 5 mixing group and a quantity of water with volumetric control.
19	SOL.5 LIOF.SUG.T	The machine gives a sugar dose into the soluble 5 mixing group and a quantity of water with time control.
20	COFFEE DECOUNTER	The coffee decounter decreases in one unit.
21	CHOCO DECOUNTER	The chocolate decounter decreases in one unit.
22	SOLUBLE 1 TIME	The machine makes the soluble 1 (milk) cycle with time control.
23	SOLUBLE 2 TIME	The machine makes the soluble 2 (chocolate) cycle with time control.
24	SOLUBLE 3 TIME	The machine makes the soluble 3 (tea) cycle with time control.
25	SOLUBLE 4 TIME	The machine makes the soluble 4 (coffee lio) cycle with time control.
26	SOLUBLE 5 TIME	The machine makes the soluble 5 cycle with time control.
27	GRINDER 1	The grinder produces a coffee dose with time control.
28	HOT WATER	A hot water quantity is supplied with volumetric control.
29	ON TIME WATER	A hot water quantity is supplied with time control.
30	SET PORT P2.7	Not used
31	RESET PORT P2.7	Not used
32	SUGAR	The machine gives a sugar dose (only for F180).

Important: some operations could not work because of the machine model. Turn to the manufacturer if you want to modify the operations sequence.

If you need to change the drink name, press the following buttons:

"7" to go back to the previous letter
"6" to go on to the following letter
"+" or "-" to modify the character

Example: change the water quantity of the coffee of the selection " long coffee" n°2

enter in" set drinks" with E
position the cursor on the code drink n°2 with the key +
enter with E the dosage sequence
position the cursor on the dosage n°7 with +
press E to enter the value change
use the numerical keys to set the desired value and press E to confirm it
press 9 to go out of the menu "drink dosage"
press" 6" to confirm the changes
press 9 to go out of the menu "set drinks"

SET PRICES

In this menu you can set the value of 10 prices lines, the various selections are linked with.

Press the buttons + or – in order to select the price line that is to be set; press E to enter the value change and set the value with the numerical buttons. Finally press E to confirm.
If all the price lines have the value 0, the machine will work in "test mode", showing it on the display.

COUNTERS & AMOUNTS

In this menu you can read the counters of the various selections and if you like, you can reset them.

Press E to enter the menu that has the following parameters:

TOTAL COUNTERS&AMOUNTS

In standard mode the first number indicates the total counter while the second one the total amount from the last zero resetting.

TEST MODE: TOTAL COUNTERS&AMOUNTS

In test mode the first number indicates the total counter while the second one the total amount from the last zero resetting.

FREE MODE: COUNTERS&AMOUNTS

In free test mode the first number indicates the total counter while the second one the total amount from the last zero resetting.

RESET COUNTERS?

Above counters zero resetting:
Press "6" to reset or "5" to cancel.

SET DRINKS

Preliminary remarks: every drink selection is composed of a sequence of codes, which correspond to a machine single operation.
Each operation is only performed after the correct working of the previous one, in case of not-correct operation the machine will be on alarm.

THE CORRECT SEQUENCE IS ALREADY SET BY THE MANUFACTURER, THEREFORE WE SUGGEST THAT THE RIGHT SEQUENCE SHOULD NOT BE MODIFIED WITHOUT CONSULTING US.

After you have entered the menu, you will see the drinks codes sequence.

03-04-05-0
Sel. 3

The flashing cursor points out the selected drink code. If you want to move it, use either the button “+” for going on or the button “-” for going back. While you move the cursor, the name of the selection and the drink code will be visualized.

Press E to modify the drink code parameters.
A sequence of numbers that correspond to the selection doses, price line (P) and name (MS) will be visualized.

01-32-02-07-P1-MS
CUP

Since the cursor points out the selected dosing code, press either the button “+” or “-” to move it; in the underlying line the description of the selected dose will appear.
Select the dose and press E in order to change its value.

Therefore every selection is composed of “a codes sequence”, a price line (P) and its name “MS”.

Electrical OUTPUT

N°	description
1	Cup releasing motor + cup arm and stirrers solenoid
2	Grinder motor
3	Coffee releaser solenoid
4	Espresso unit motor
5	ETV espresso
6	Pump
7	ETV / whipper sol. 1/2 (milk / chocolate)
8	Powder motor sol.1 (milk)
9	Sugar motor
10	Powder motor sol. 2 (chocolate)
11	ETV / whipper sol. 3 (tea)
12	Powder motor sol. 3 (tea)
13	Cup column solenoid

Push "+" or "-", to choose the output and press "Enter" to supply it.

Press PROG to go out of this menu.

EVENTS

In this menu you can read the last 100 machine operations.
The following data will be visualized:

Date : hour & date
ID:XXX RESULT POS

Both the time and the date are not available.
ID indicates the kind of operation that can be either a drink code or another operation (see chart).
RESULT indicates if or not the operation has had a good result.
POS indicates the operation memory position (from 1 to 100).
Use the buttons + and – to scroll all the operations.

Operation codes

94 espresso group positioning
96 reached filter counter
97 boiler 1 filling
99 washing cycle

Error codes

E103 espresso group positioning in "start position"
E104 espresso group positioning in "supply position"
E105 espresso supplying
E106 soluble supplying
E107 coffee grinding
E112 lack of water
E113 boiler 1 temperature
E115 coffee grounds counter
E119 "executive or MDB" communication on working
E120 "executive or MDB" communication at power on

MAIN MENU

You can enter this menu pressing PROG button for 5 seconds.

The menu has the following parameters:

PAYMENT SYSTEM
Setting the payment system and its options.

SET TEMPERATURE
Setting temperatures and other boilers functions

OPTIONS: INSERT PASSWORD
You can enter the options menu with 2 programming levels: operator and technician or manager.

REGULAR MODE COUNTERS&AMOUNTS: regular mode counter.

TEST MODE COUNTERS&AMOUNTS: test mode working counter.

FREE MODE COUNTERS&AMOUNTS: free mode working counter.

RESET COUNTERS&AMOUNTS: Above counters zero resetting. Press “6” to confirm or “5” to cancel.

ENABLE SLAVE MACHINE: Enabling the “slave” machine is not available.

ENABLE TEMPERAT.ON DISPLAY: Visualization of the boiler temperature on the display.

SERIAL NUMBER: Machine serial number.

CAUTION ! OUTPUT TEST !: board electrical output test (see the chart on page 20).

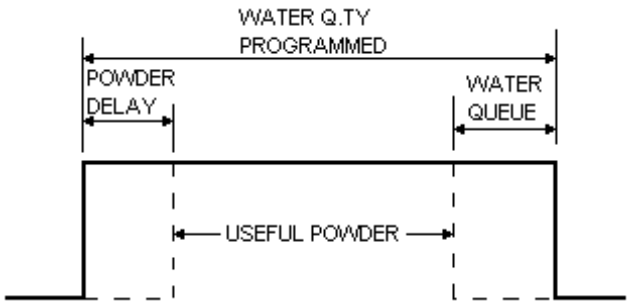
TYPE OF MACHINE: Machine model (please refer to the manufacturer before changing it).

ENABLE AUTOMATIC WASHING: if enabled, the machine makes an automatic washing cycle at the power-on.

DISPLAY COUNTERS ENABLE: if enabled, at the power-on the display will show the total counter, which can’t be reset.

BOILER 1 WORKING: Boiler enabling.

Note 1: In order to avoid mixing group blocking, the software controls the powder and water values as the following diagram shows:



OPTIONS: LEVEL 2 (manager- technician)

After you have inserted the correct password, which initially is “222”, the following menu will appear:

MODIFY PASSWORD LEVEL 1: Insert the new password and press E to confirm.

MODIFY PASSWORD LEVEL 2: Insert the new password and press E to confirm.

SET DRINKS: See ”set drinks” chapter on page 21.

LOAD DEFAULT DATA: Original data loading. Press “6” to confirm or press “5” to cancel it.

SET LANGUAGE: Language of all the messages.

SET DELAY POWDER: Time between the water and the powder supply, in second tenths (see note 1).

SET WATER QUEUE: Water reserve without powder at the end of the selection in second tenths (see note 1).

SET PAUSE ESPRESSO GROUP: Time for coffee ground drying, in second tenths.

ENABLE BITTER DRINK AS DEFAULT: Function of sugar’s selections.

If ENABLE, the drink will be without sugar and the buttons A and B will have the function of “sweet” and “extra sweet” respectively.

If DISABLED, the drink will be with sugar and the buttons A and B will have the function of “no sugar” and “extra sweet” respectively.

PRE-GRINDING: pre-grinding function enabling

SET FILTER COUNTER: Counter for the message of anti-scale filter replacing. Once reached, the machine will show “*” on display but it will keep on working (see also on page 18).

SET NUMBER OF COFFEE GROUNDS: Counter for the message of coffee grounds emptying. Once reached, the machine will show “EMPTY GROUNDS” and it will stop (see also on page 24).

PAYMENT SYSTEM

This menu has the following parameters:

SET COIN VALUE PARALLEL SYSTEM
Setting the coin values (see note 1).

DECIMAL POINT
Setting the decimal point of coins and prices values.

NAME OF CURRENCY
Setting the currency name.

SINGLE SALE NO CHANGE GIVEN
Setting the sale mode without keeping the residual credit.

MAXIMUM CHANGE GIVEN
Change maximum value (only for MDB change giver systems).

TYPE OF PAYMENT SYSTEM
Payment system used in the machine (see note 2).

Note 1: This menu is only valid for parallel acceptors.
If you want to memorize the coin values proceed in the following way:
set the coin value with the numerical buttons
insert the coin in the acceptor
if the coin is accepted, the display will show the channel on which is programmed
press F4 to confirm the memorization.
Repeat the procedure for the other coins.

Note 2: After programming the type of payment system, you have to go out of the program with ESC and switch off the machine.
To use MDB payment systems, insert the red wire into the connector of the electronic board.

SET TEMPERATURE

This menu has the following parameters:

SET BOILER TEMPERATURE
Setting the boiler temperature.

TIME OVERHEATING BOILER
If the machine hasn't worked for a long time, the boiler will overheat.

SET OVERHEATING BOILER
Boiler overheating value (max. 5°C).

TIME FILLING UP BOILER
The pump refills the boiler to keep the maximum level at the set time

SET FILLING UP BOILER
Boiler refilling time.

OPTIONS

This menu has 2 different levels that are protected by a password:

1st level. Operator - addressed to the machine operator
2nd level. Manager - addressed to the machine technician / manager

The machine has 3 working types that have their own selections and amounts counter:

standard:	standard working with priced selections
test :	working with priced selections and with the money that doesn't go into the coin box (example: the technician has to test the machine and the payment system).
Free test:	working with free selections.

The counters of every level are independent; therefore the zero resetting of the counters of a level doesn't influence the other counters

OPTIONS: LEVEL 1 (operator)

After you have inserted the correct password, which initially is "111", the following menu will appear:

MODIFY PASSWORD LEVEL 1: Insert the new password and press E to confirm it.

TEST MACHINE MODE: Set the machine in test mode working.

FREE MODE: Set the machine in free mode working.

SINGLE DRINK COUNTERS&AMOUNTS: Choose the id drink to analyse with + or - and press Enter to confirm.

REGULAR COUNTERS: standard working counter.
TEST MODE COUNTERS&AMOUNTS: Test mode working counter.
FREE MODE COUNTERS&AMOUNTS: Free mode working counter.

RESET COUNTERS&AMOUNTS: Above counters zero resetting:
Press "6" to reset or "5" to cancel.